Fig. 1

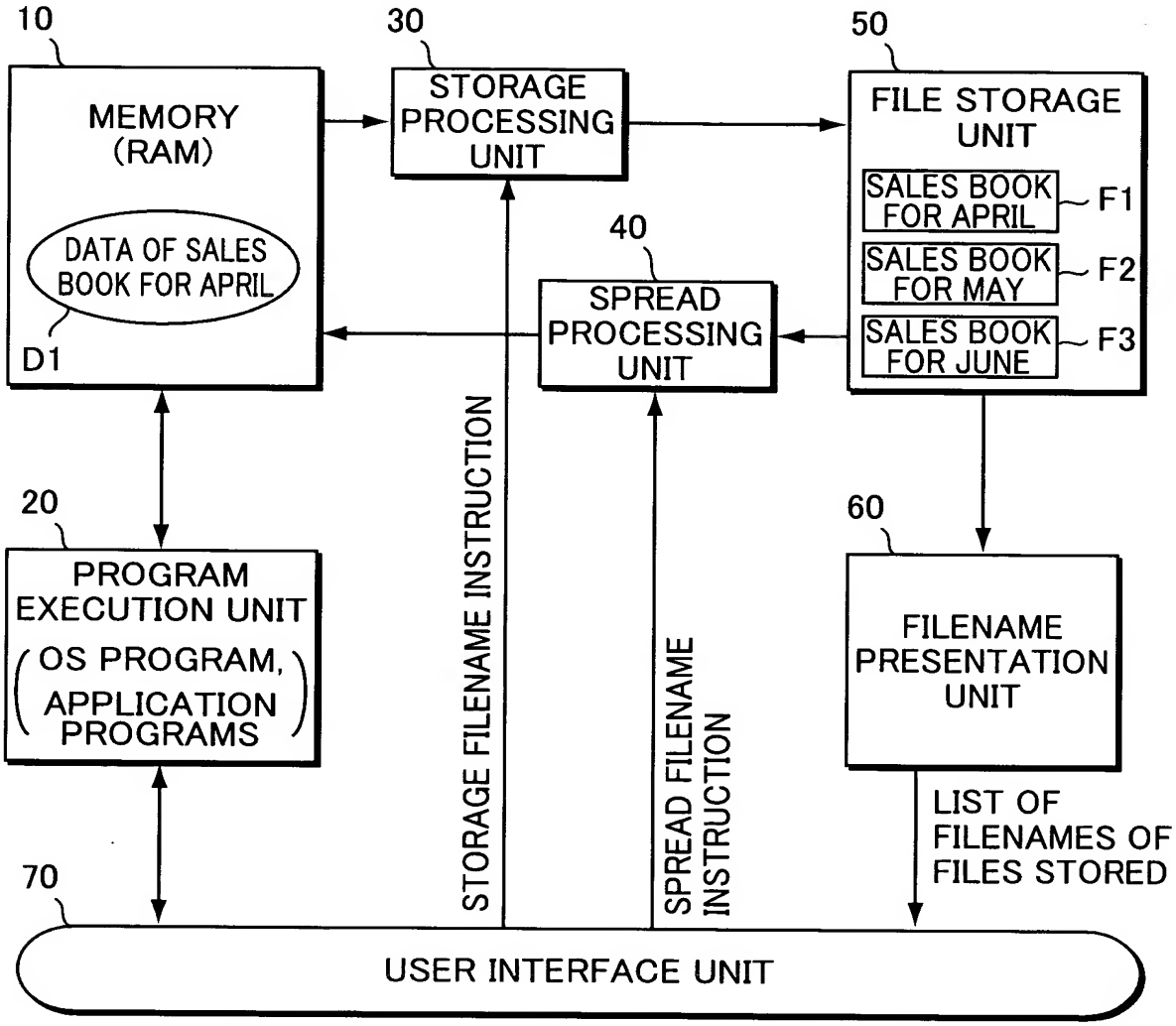
10
MEMORY
(RAM)
DATA OF SALES BOOK FOR APRIL
D1
30
STORAGE PROCESSING UNIT
40
SPREAD PROCESSING UNIT
50
FILE STORAGE UNIT
SALES BOOK FOR APRIL
F1
SALES BOOK FOR MAY
F2
SALES BOOK FOR JUNE
F3
20
PROGRAM EXECUTION UNIT
(OS PROGRAM, APPLICATION PROGRAMS)
60
FILENAME PRESENTATION UNIT
STORAGE FILENAME INSTRUCTION
SPREAD FILENAME INSTRUCTION
LIST OF FILENAMES OF FILES STORED
70
USER INTERFACE UNIT

Fig. 2

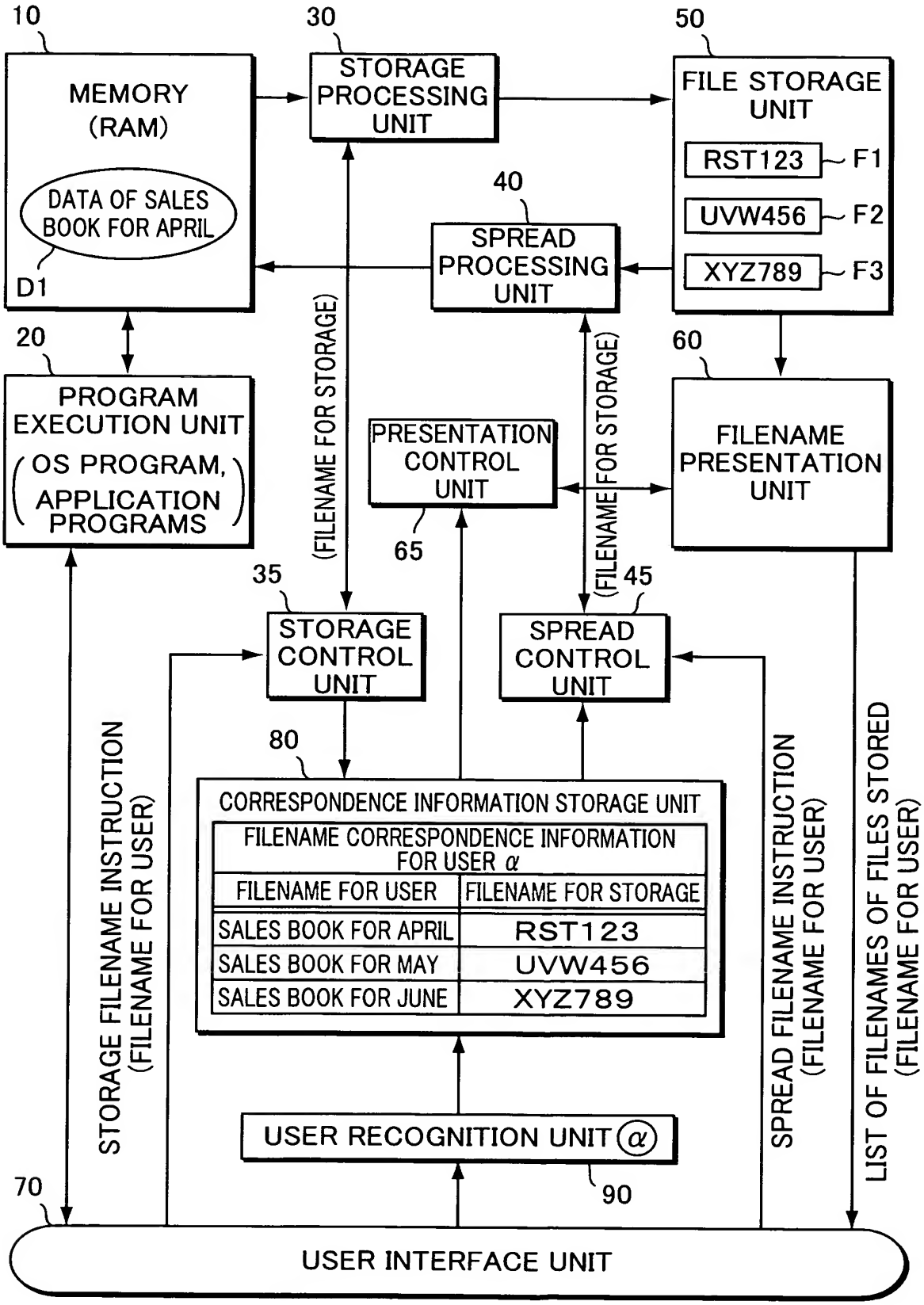
10
MEMORY (RAM)
DATA OF SALES BOOK FOR APRIL
D1
30
STORAGE PROCESSING UNIT
50
FILE STORAGE UNIT
RST123
F1
UVW456
F2
XYZ789
F3
40
SPREAD PROCESSING UNIT
20
PROGRAM EXECUTION UNIT
(OS PROGRAM, APPLICATION PROGRAMS)
(FILENAME FOR STORAGE)
(FILENAME FOR STORAGE)
60
FILENAME PRESENTATION UNIT
PRESENTATION CONTROL UNIT
65
35
STORAGE CONTROL UNIT
45
SPREAD CONTROL UNIT
80
CORRESPONDENCE INFORMATION STORAGE UNIT
FILENAME CORRESPONDENCE INFORMATION FOR USER α
FILENAME FOR USER
FILENAME FOR STORAGE
SALES BOOK FOR APRIL
RST123
SALES BOOK FOR MAY
UVW456
SALES BOOK FOR JUNE
XYZ789
STORAGE FILENAME INSTRUCTION (FILENAME FOR USER)
SPREAD FILENAME INSTRUCTION (FILENAME FOR USER)
LIST OF FILENAMES OF FILES STORED (FILENAME FOR USER)
USER RECOGNITION UNIT (α)
90
70
USER INTERFACE UNIT

Fig. 3

80

CORRESPONDENCE INFORMATION STORAGE UNIT

FILENAME CORRESPONDENCE INFORMATION FOR USER α	
FILENAME FOR USER	FILENAME FOR STORAGE
SALES BOOK FOR APRIL	RST123
SALES BOOK FOR MAY	UVW456
SALES BOOK FOR JUNE	XYZ789

FILENAME CORRESPONDENCE INFORMATION FOR USER β	
FILENAME FOR USER	FILENAME FOR STORAGE
COMPANY X CUSTOMER FILE	ABC147
COMPANY Y CUSTOMER FILE	DEF258
COMPANY Z CUSTOMER FILE	GHI369

Fig. 4

50

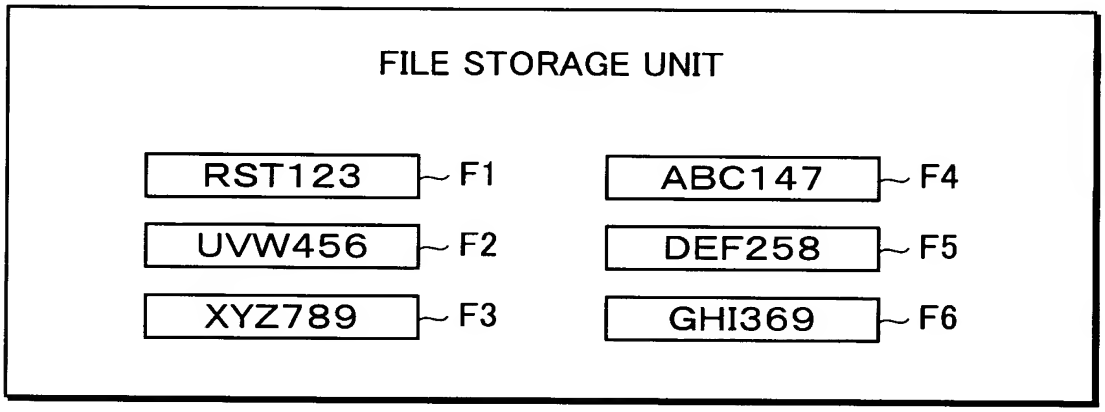

Fig.5A

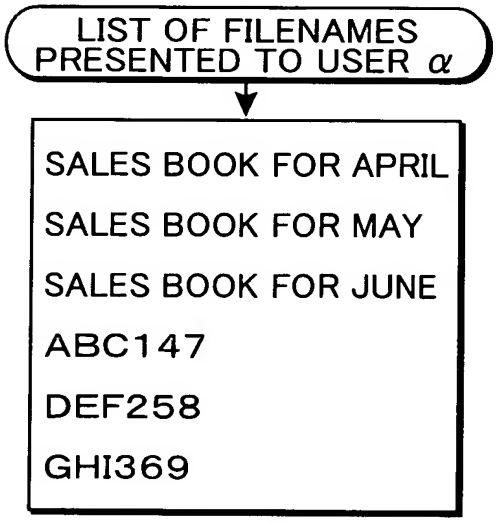

Fig.5B

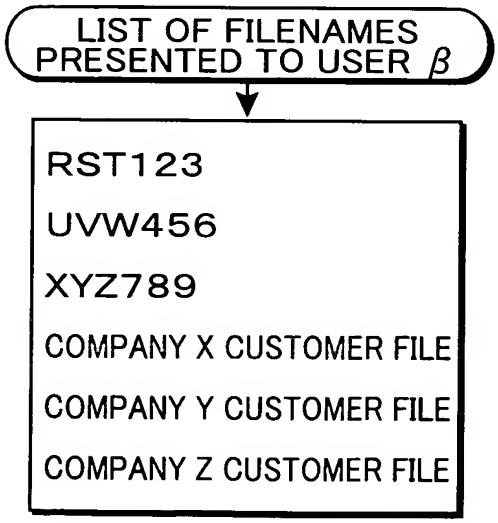

Fig. 6

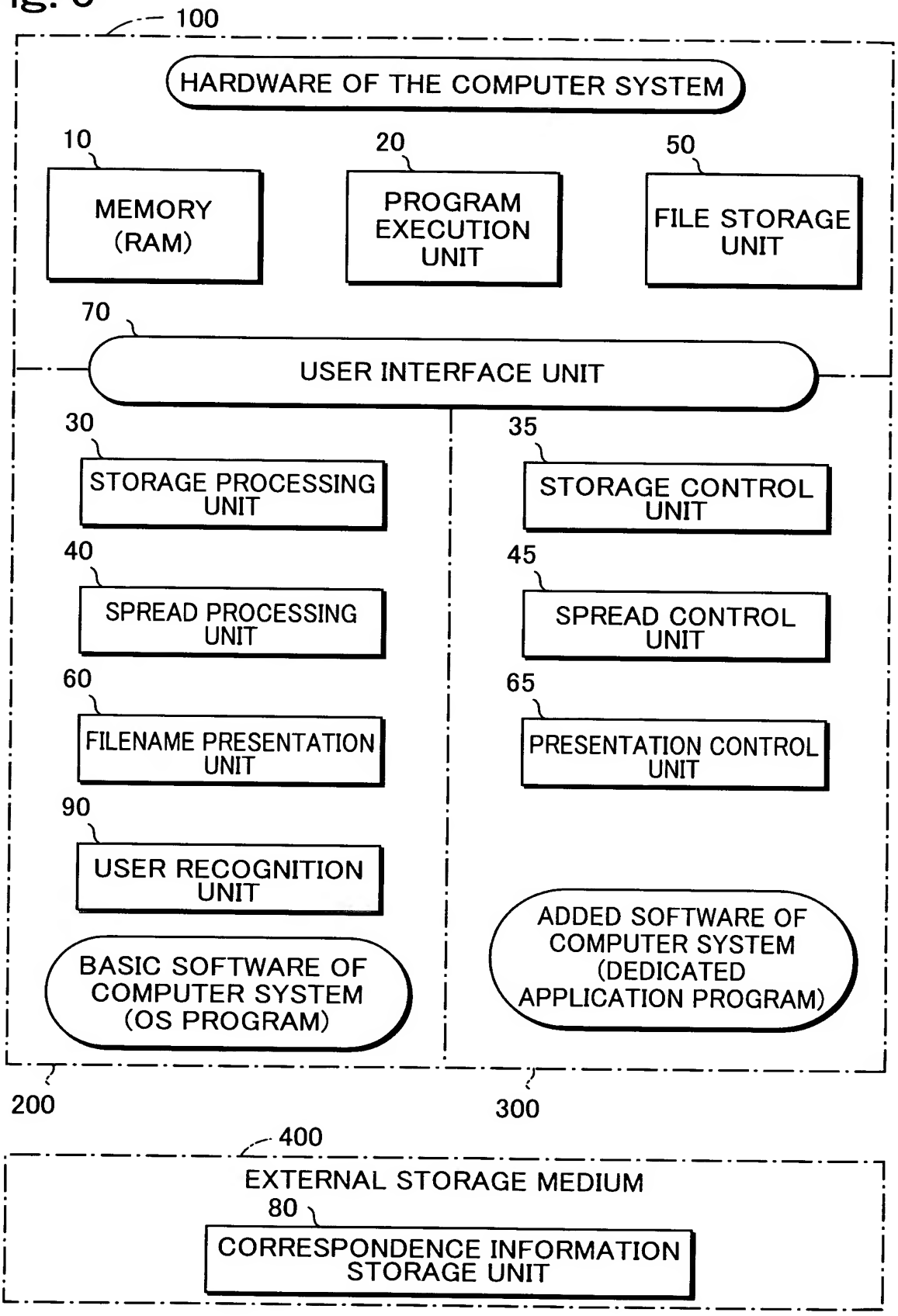
100
HARDWARE OF THE COMPUTER SYSTEM
10
MEMORY (RAM)
20
PROGRAM EXECUTION UNIT
50
FILE STORAGE UNIT
70
USER INTERFACE UNIT
30
STORAGE PROCESSING UNIT
35
STORAGE CONTROL UNIT
40
SPREAD PROCESSING UNIT
45
SPREAD CONTROL UNIT
60
FILENAME PRESENTATION UNIT
65
PRESENTATION CONTROL UNIT
90
USER RECOGNITION UNIT
BASIC SOFTWARE OF COMPUTER SYSTEM (OS PROGRAM)
ADDED SOFTWARE OF COMPUTER SYSTEM (DEDICATED APPLICATION PROGRAM)
200
300
400
EXTERNAL STORAGE MEDIUM
80
CORRESPONDENCE INFORMATION STORAGE UNIT

Fig. 7

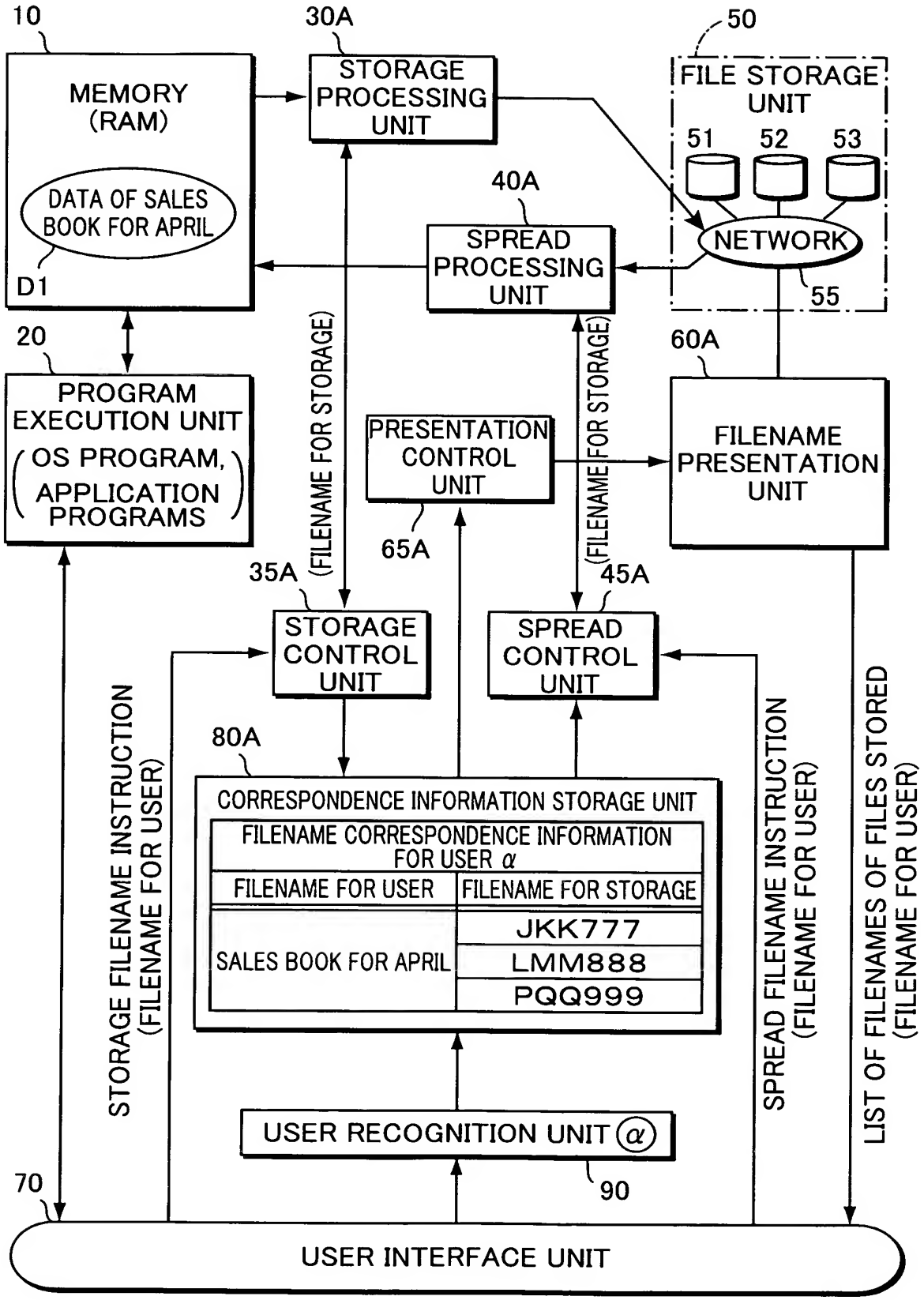
10
MEMORY (RAM)
DATA OF SALES BOOK FOR APRIL
D1
30A
STORAGE PROCESSING UNIT
50
FILE STORAGE UNIT
51
52
53
40A
SPREAD PROCESSING UNIT
NETWORK
55
20
PROGRAM EXECUTION UNIT
(OS PROGRAM, APPLICATION PROGRAMS)
(FILENAME FOR STORAGE)
PRESENTATION CONTROL UNIT
65A
(FILENAME FOR STORAGE)
60A
FILENAME PRESENTATION UNIT
35A
STORAGE CONTROL UNIT
45A
SPREAD CONTROL UNIT
80A
CORRESPONDENCE INFORMATION STORAGE UNIT
FILENAME CORRESPONDENCE INFORMATION FOR USER α
FILENAME FOR USER
FILENAME FOR STORAGE
SALES BOOK FOR APRIL
JKK777
LMM888
PQQ999
STORAGE FILENAME INSTRUCTION (FILENAME FOR USER)
SPREAD FILENAME INSTRUCTION (FILENAME FOR USER)
LIST OF FILENAMES OF FILES STORED (FILENAME FOR USER)
USER RECOGNITION UNIT (α)
90
70
USER INTERFACE UNIT

Fig.8A

Fig.8B

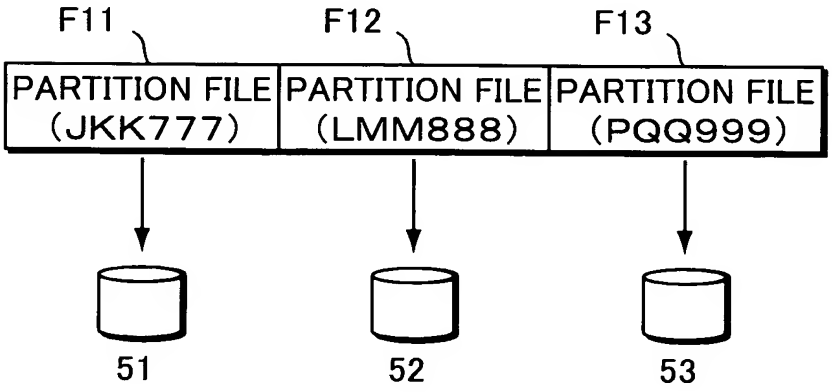
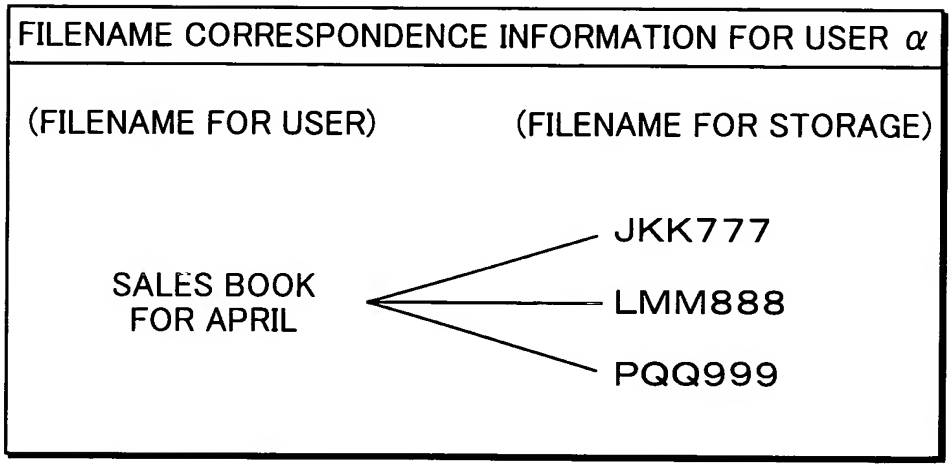
Fig.8C